

[0097] The amount of flavoring may also have some effect on the freezing and fluid properties of the topping at low temperatures. For example, it has been found that replacement of an amount of powdered sugar with HFCS in icings can suppress the freezing point of an icing.

[0098] Sugar Flavoring

[0099] Sugar can optionally be included in a topping as a flavoring. The sugar content of an icing can preferably be within the range from about 30% to about 60% by weight, preferably from about 40% to about 58% by weight, and most preferably around 57-58% by weight. A preferred sugar for a sweetener is powdered sugar of a particle size within the range of from about 6x to about 12x, most preferably about 12x.

[0100] Because it has been found that the amounts and types of sweetener can have some effect on the freezing point and fluidity of a topping, the amounts and types of sweeteners used in preferred toppings of the invention can be chosen to reduce the freezing point of the topping, to improve fluidity at low temperatures, and preferably to reduce runniness at relatively higher temperatures, e.g., up to room temperature (25° C.). A topping can include some amounts of both a sugar (e.g., powdered sugar) and HFCS, but best effects of depressing freezing point are achieved by substitution of at least some portion of powdered sugar with HFCS. This generally reduces the sweetness of the composition, because HFCS is not as sweet as powdered sugar, but such a substitution is most effective to achieve freezing point suppression. Thus, the amount of sweetener can be balanced to provide desired flavor and sweetness against reduced melting point and increased fluidity properties. A preferred range of powdered sugar used in an icing formulation to achieve properties of reduced melting point, increased fluidity, etc., can be in the range from about 30 to about 60 weight percent.

[0101] Water Content

[0102] It is preferred to adjust and maintain the overall total water content of a topping to within the range of from about 9% to about 22% by weight and preferably within the range of from about 14% to about 17% by weight.

[0103] Exemplary Formulation

[0104] Exemplary formulations that can be used to prepare a topping or an icing meeting one or more of the objectives described herein, are summarized as follows:

<u>Icing Formulation</u>	
	Approximate % By Weight
Sugar Content	30 to 60
Water Content	9 to 22
Total Fat Content	10 to 20
Approximate ratio of liquid oil:liquid oil plus shortening in Total Fat Content	0.26 to 0.43:1
High Fructose Corn Sweetener	2 to 30
Water-activity reducing agent	1 to 15

[0105] Other ingredients besides those mentioned above may be used in a topping composition, as will be appreciated

by a skilled artisan. For example, other typical ingredients may include corn syrup solids, salt, surfactants, coloring, gums, stabilizers, milk products, preservatives, etc. The identity and amounts of these additional ingredients may be varied, as desired, within reasonable use levels, almost at the formulator's will, to an extent that will not have a significant effect on important properties of the topping such as fluidity at sub-freezing temperatures (e.g., as measured by viscosity) and melting temperature. Thus, an important attribute of the final composition is achieved, namely formulation versatility.

[0106] The icing or other type of topping can be prepared by combining the described ingredients, as will be understood by one skilled in the food topping art.

EXAMPLES

[0107] Following is an exemplary process for preparing embodiments of the icings according to the invention.

<u>VANILLA ICING FORMULA</u>	
Ingredients	Percentage
Powdered Sugar	44.92
Water	13.93
Vegetable Shortening	9.88
Soy Oil	5.84
Sweet Whey	4.94
HFCS	9.91
Glycerine	5.00
Corn Syrup Solids	2.44
Dextrose	2.44
Salt	0.48
Polysorbate 60	0.075
Xanthan Gum	0.027
Butter/Vanilla Flavor	0.029
Vanilla Flavor	0.028

<u>CHOCOLATE ICING FORMULA</u>	
Ingredients	Percentage
Powdered Sugar	43.41
Water	13.46
Vegetable Shortening	9.55
Soy Oil	5.64
Sweet Whey	4.77
HFCS	9.58
Corn Syrup Solids	2.36
Dextrose	2.36
Salt	0.47
Polysorbate 60	0.075
Xanthan Gum	0.026
Glycerine	4.83
Butter/Vanilla Flavor	0.028
Vanilla Flavor	0.027
Cocoa Powder	2.41
Cocoa Powder	0.96

Ingredients	(Comparative) (wt%)	Example 3 (wt%)	Example 4 (wt%)
Pwd Sug	59.99	29.83	19.83
Water	12.27	15.58	15.48
Short	9.23	10.53	
Oil	5.45	6.23	16.75
Whey	4.61	5.26	5.26
HFCS	3.25	16.57	26.57
Corn Syrup Solids	2.29	2.60	2.60
Dextrose	2.28	2.60	2.60
Salt	0.46	0.51	0.52